UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB1999-0145

November 30, 1999

Mr. Harry R. Cosgriffe, Acting Area Manager
Central Oregon Resource Area
U.S. Department of the Interior
Bureau of Land Management
Prineville District Office
P.O. Box 550
Prineville, Oregon 97754

Re: Biological Opinion on Ongoing and Proposed Bureau of Land Management Activities Affecting Middle Columbia River Steelhead, Central Oregon Resource Area, John Day River Basin, Oregon

Dear Mr. Cosgriffe:

Enclosed is the National Marine Fisheries Service's (NMFS) Endangered Species Act (ESA) Section 7 biological opinion on the Bureau of Land Management's (BLM) ongoing and proposed activities (road maintenance, irrigation withdrawal, and gas pipeline maintenance) within the John Day River Basin. The NMFS has determined that the subject actions are not likely to jeopardize the continued existence of listed Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*) or result in the destruction or adverse modification of proposed critical habitat for MCR steelhead.

If you have any specific questions please contact Ron Lindland at (503) 231-2315 or Randy Tweten at (503) 231-2202 in the Oregon State Branch Office.

Sincerely,

/s

William Stelle, Jr.
Regional Administrator

cc: Doug Young, U.S. Fish and Wildlife Service
Tim Unterwegner, Oregon Department of Fish and Wildlife

Endangered Species Act - Section 7
Consultation

BIOLOGICAL OPINION

Ongoing and Proposed Bureau of Land Management Activities Affecting
Middle Columbia River Steelhead

John Day River Basin

Agency: Bureau of Land Management, Prineville District, Central Oregon Resource Area

Consultation
Conducted By: National Marine Fisheries Service
Northwest Region

Date Issued: November 30, 1999

Refer to: OSB1999-0145

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I. BACKGROUND

On June 3, 1999, the National Marine Fisheries Service (NMFS) received a May 27, 1999, letter from the Bureau of Land Management (BLM), Prineville District, Central Oregon Resource Area requesting formal consultation regarding the potential effects of their ongoing and proposed activities on Middle Columbia River (MCR) steelhead Evolutionarily Significant Unit (ESU). The accompanying Biological Assessment (BA) described ongoing and proposed actions and the environmental baseline, and addressed the effects of those ongoing and proposed BLM actions on MCR steelhead in the John Day River basin within the BLM's Central Oregon Resource Area. On May 5, 1999, NMFS received a draft BA. On May 6 and 7, 1999, NMFS met with BLM personnel in Prineville, Oregon to review the draft BA. Following that meeting, NMFS requested additional information and revisions to the draft BA. The revised final BA and accompanying letter requesting consultation was received by NMFS on June 3, 1999.

NMFS listed the MCR steelhead (*Onchorynchus mykiss*) as threatened under the Endangered Species Act (ESA) on March 25, 1999 (March 25, 1999, 64 FR 14517). The NMFS proposed critical habitat for MCR steelhead on February 5, 1999 (64 FR 5740). Critical habitat has not yet been designated for MCR steelhead .

The objective of this biological opinion is to determine whether the subject actions are likely to jeopardize the continued existence of MCR steelhead or result in the destruction or adverse modification of proposed critical habitat for MCR steelhead.

II. PROPOSED ACTIONS

The BA submitted to NMFS describes seven categories of actions to be conducted by the BLM within the John Day River basin: timber management (South Little Canyon Timber Sale), prescribed burning, road maintenance, construction of one pond on a spring for improved grazing management, range allotments, irrigation use for agricultural leased fields, and natural gas pipeline right-of-way maintenance. The BLM determined in the BA, and NMFS concurs, that the South Little Canyon Timber Sale, prescribed burning, the pond construction, and 122 range allotments (for the 1999 grazing season) are "may affect, but not likely to adversely affect" (NLAA) actions regarding MCR steelhead. NMFS' concurrence on those actions was provided in a July 2, 1999, letter. Fourteen range allotments (for the 1999 grazing season), road maintenance, irrigation use, and pipeline maintenance were determined by the BLM to be "may affect, and likely to adversely affect" (LAA) the MCR steelhead. The 1999 grazing season ended in October for the 14 range allotments, therefore, they will not be addressed in this biological opinion. Grazing activities for 2000 will be addressed in a separate opinion. Road maintenance, irrigation use, and pipeline maintenance are the subject of this biological opinion.

A. Road Maintenance

The BLM maintains approximately 67 miles of road within the John Day River basin. Road maintenance in the South Fork John Day (SFJD) River include: 23.1 miles along the main SFJD River, the lower 3 miles along Deer Creek, and the lower 4.4 miles along Indian Creek. Road maintenance on mainstem John Day River tributaries include: the lower 6.5 miles along Squaw Creek and 30.1 miles of the Holmes Creek/Franks Creek road. Road maintenance activities include blading, maintenance and repair of ditches and other drainage structures, vegetation management (brushing and limbing), and surfacing of the main SFJD River road with aggregate. Some road maintenance is specifically designed to reduce runoff from roads to streams. No dumping of waste material resulting from road maintenance activities is permitted in riparian areas or in areas from which sediment could enter streams.

The BLM proposes to remove and replace the existing culvert at the mouth of Smoky Creek which enters the SFJD River at approximately River Mile (RM) 6.3. Replacement of the culvert would restore access for MCR steelhead to 3.0 miles of spawning and rearing habitat in Smokey Creek. The existing culvert is undersized; the replacement would accommodate a 100-year peak flow event.

B. Irrigation Withdrawal for BLM Lands

This program involves withdrawal of water from the mainstem John Day River and Bridge Creek (LJD River) to irrigate lands on which agricultural crops, cottonwood seedlings, and other native plants are grown to benefit fish and wildlife. Seedlings from this area are also transplanted to other areas on BLM lands. A total of 137.5 acres of BLM land along approximately 9 miles of Bridge Creek from RM 1 to RM 10 are irrigated as part of this project. All water withdrawal is done using appropriately screened pump stations which withdraw water directly from the streams. The water right allows a maximum withdrawal from Bridge Creek of 3.4 cubic feet per second (cfs) before June 15 and 1.7 cfs after June 15. The BLM has imposed mitigation measures to reduce potential effects on rearing MCR steelhead in Bridge Creek. These are:
(1) Termination of irrigation if and when the discharge of Bridge Creek recedes to 10 cfs, and
(2) maintenance of a 20-foot minimum buffer/filter strip between the field and the floodplain of the creek to minimize transport of sediment or other field applications (e.g. fertilizer) to the stream.

C. Natural Gas Pipeline Maintenance

A natural gas pipeline is buried beneath the stream channel or within the stream corridor in the lower 6 miles of Pine Hollow. Pine Hollow enters the LJD River near RM 85. Periodic maintenance of the pipeline is conducted by Pacific Gas and Electric (PG & E) on an as needed basis during the summer months. Maintenance consists of digging up an area of the pipeline where a problem exists, fixing the problem, and re-burying the pipe.

Water typically only flows in this area for a short time in late winter or early spring. Maintenance generally occurs when this section of the stream is nearly dry. However, there are sometimes scattered pools along the creek channel which may still contain juvenile MCR steelhead when maintenance work is done. The current gas pipeline right-of-way lease expires in 2015.

The Central Oregon Resource Area of the Prineville BLM District is within the area covered by PACFISH[1]; therefore, all agency activities are required to be consistent with their Resource Management Plan (RMP) as modified by PACFISH. The NMFS also assumes that activities will be consistent with the requirements of NMFS' June 22, 1998, biological opinion, *Section 7 Consultation on the Effects of Continued Implementation of Land and Resource Management Plans on Endangered Species Act Listed Salmon and Steelhead in the Upper Columbia and Snake River Basins* (NMFS 1998).

III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

The listing status and biological information for MCR steelhead are described in Busby et al. (1996). The NMFS proposed critical habitat for MCR steelhead on February 5, 1999 (64 FR 5740). The ongoing actions discussed in this biological opinion are within the area proposed as critical habitat for MCR steelhead.

According to the BA, MCR steelhead adults enter the John Day River as early as September with peak migration in October, depending on water temperature. Spawning in the John Day basin occurs from March to mid-June. The majority of spawning occurs in the tributaries, starting as low as Rock Creek which enters the John Day River near RM 22. Table 1 in the BA lists 32 tributary streams on BLM land within the upper John Day (UJD) River subbasin (HUC 17070201) where MCR steelhead spawning and rearing is known to occur. Table 2, 3, and 4 of the BA lists 13 tributary streams on BLM land within the North Fork John Day (NFJD) River subbasin (HUC 17070202), six in the Middle Fork John Day (MFJD) River subbasin (17070203), and 13 in the LJD subbasin (HUC 17070204) where MCR spawning and rearing is known to occur. Izee Falls on the SFJD River (which is within the UJD subbasin) at RM 28.5 is a natural barrier to upstream migration of anadromous fish.

Fry emergence timing depends on time of spawning and water temperature during egg incubation, but usually occurs from late May through June. MCR steelhead rear in the cooler tributary streams and in the mainstem John Day River upstream from John Day, Oregon (RM 248). High summer water temperatures in the mainstem downstream from Mt. Vernon, Oregon (RM 240) preclude summer rearing by juvenile salmonids.

[1]U.S. Department of Agriculture (USDA) and U.S. Department of Interior (USDI). 1994. Environmental Assessment for Implementation of Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH). March.

IV. EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA, as defined by 50 CFR Part 402 of the implementing regulations. NMFS discusses the analysis necessary for application of these standards in the particular context of Pacific salmonids in Attachment 2 of the March 18, 1997, Land and Resource Management Plan (LRMP)/RMP biological opinion (NMFS 1997a). This analysis involves the following steps: (A) Define the biological requirements of the species; (B) evaluate the environmental baseline relative to the species' current status; (C) determine the effects of the proposed or continuing action on the species; (D) determine whether the species can be expected to survive with an adequate potential for recovery under the effects of the proposed or continuing action, the environmental baseline and any cumulative effects, and considering measures for survival and recovery specific to other life stages; and (E) identify reasonable and prudent alternatives to a proposed or continuing action that is likely to jeopardize the continued existence of the species.

In summary, for spawning and rearing habitat, NMFS' jeopardy analysis considers direct and indirect mortality of MCR steelhead attributable to the proposed action. The NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for productive spawning, rearing, and migration of MCR steelhead.

A. Biological Requirements

For this consultation, NMFS finds that the biological requirements of MCR steelhead are best expressed in terms of environmental factors that define properly functioning freshwater aquatic habitat necessary for survival and recovery of the ESU. The NMFS defines this properly functioning condition as the state in which all of the individual habitat factors operate together to provide a healthy aquatic ecosystem that meets the biological requirements of the fish species of interest. Individual environmental factors include water quality, habitat access, physical habitat elements, channel condition, and hydrology. Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of MCR steelhead.

B. Environmental Baseline

The environmental baseline is an analysis of the effects of past and on-going human-caused and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The "action area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). The action area for this consultation, therefore, includes the mainstem John Day River, NFJD River, SFJD River, and all of their tributaries within or adjacent to BLM lands. These streams contain spawning, rearing, and migratory habitat for MCR steelhead.

The current range-wide population status and trends for MCR steelhead are described in Busby et al. (1996) and in NMFS (1997b). The five subbasins of the John Day River (LJD River, UJD River, NFJD River, MFJD River, and SFJD River) each have MCR steelhead runs in excess of 1,000 returning adults, so the total run size for the John Day basin is probably in excess of 5,000 fish (Busby et al. 1996). NMFS (1997b) citing Chilcote (1997) states that recent MCR steelhead redd counts conducted in established index areas throughout the John Day River basin suggest universal declines in redd abundance ranging from -0.9 to -5.6% over the past several years. In general, the current status of MCR steelhead populations is the result of several long-term, human-induced factors (e.g. habitat degradation, water diversions, hydropower dams) that serve to exacerbate the adverse effects of natural environmental variability from such factors as drought, floods, and poor ocean conditions. Within the action area, habitat degradation has occurred from timber harvest, road construction, water diversions, livestock grazing, and agriculture.

Environmental baseline conditions within the action area were evaluated for the subject actions at the project site and watershed scales. The results of this evaluation, based on the "matrix of pathways and indicators" (MPI) described in *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996), follow. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species. For the purposes of this consultation, streams within the action area were grouped into nine categories. These were: (1) UJD River and tributaries; (2) SFJD River and tributaries downstream from Izee Falls; (3) SFJD River and tributaries upstream from Izee Falls; (4) NFJD River and tributaries; (5) MFJD River and tributaries; (6) LJD River; (7) perennial tributaries to the LJD River; (8) intermittent tributaries to the LJD River; and (9) ephemeral tributaries to the LJD River. Since actual data for many of the habitat indicators in the MPI are not available for many streams, ratings are based on professional judgement of BLM fishery biologists. Izee Falls is a natural waterfall located on the SFJD River at River Mile 28.7 which is a complete barrier to upstream migration by MCR steelhead.

Upper John Day River Subbasin

The UJD River subbasin encompasses 1.37 million acres from the headwaters of the John Day River in the Blue and Strawberry Mountains downstream to the NFJD River confluence at RM 185 near Kimberly, Oregon. Major tributaries within the subbasin include Canyon, Beech, Rock, and Johnson Creeks and the SFJD River. The BLM manages approximately 145,635 acres within the UJD River subbasin. For purposes of this consultation, the UJD River tributaries (excluding the SFJD River) were divided into two groups based on similarities in environmental baseline conditions; and the SFJD River was divided at Izee Falls.

In the first group of UJD River tributaries including Dixie, Standard, Canyon, Indian, Beech, Little Pine creeks (refer to page B16 of the BA for a complete list), four habitat indicators (temperature, nutrients, large wood, and disturbance history) are rated as properly functioning based on thresholds established

for 18 habitat indicators by NMFS' MPI. Water temperatures have been monitored in Dixie, Standard, Canyon, and Indian creeks. Another three indicators (sediment, pool quality, and refugia) are rated as properly functioning to functioning at risk. Seven indicators (physical barriers, substrate, width/depth ratio, streambank condition, floodplain connectivity, peak/base flows, and road density) are rated as functioning at risk. Irrigation diversions on Dixie and Standard Creeks block fish passage at base flows. Pool frequency and drainage network increase are rated as not properly functioning. The drainage network increase is mainly due to off-road vehicle use in Standard, Dixie, and Little Pine Creeks. Because of the small size and moderate to steep gradient of these streams, off-channel habitat would not be expected so this indicator was not rated. In order to rate the riparian reserve indicator, an assessment of the potential of each site would need to be made. Since this assessment has not been done for these streams, this indicator was not rated.

In the second group of UJD River tributaries including Warrens, Flat, Belshaw, Cottonwood creeks (refer to page B18 of the BA for a complete list), two of the habitat indicators, physical barriers and disturbance history, are rated as properly functioning based on thresholds established by NMFS' MPI. Another indicator, nutrients, is rated as properly functioning to functioning at risk. Seven indicators (sediment, off-channel habitat, streambank condition, floodplain connectivity, peak/base flows, drainage network increase, and road density) are rated as functioning at risk. Substrate and pool quality indicators are rated as functioning at risk to not properly functioning. Temperature, large wood, pool frequency, refugia, and width/depth ratio are rated as not properly functioning. The riparian reserve indicator was not rated for the same reason as stated above.

In the SFJD River and tributaries downstream from Izee Falls (refer to page B20 of the BA for a complete list), the disturbance history indicator was rated as properly functioning. Ten habitat indicators (temperature, nutrients, pool quality, off channel habitat, refugia, width/depth ratio, streambank condition, floodplain connectivity, peak/base flow, and drainage network increase) are rated as functioning at risk. The road density indicator was rated as functioning at risk to not properly functioning. Sediment, physical barriers, substrate, large wood, and pool frequency are rated as not properly functioning. The riparian reserve indicator was not rated for the same reason as stated above.

In the SFJD River and tributaries upstream from Izee Falls (refer to page B22 of the BA for a complete list), ten habitat indicators (temperature, nutrients, pool quality, off channel habitat, refugia, width/depth ratio, streambank condition, floodplain connectivity, peak/base flow, and drainage network increase) are rated as functioning at risk. The road density indicator was rated as functioning at risk to not properly functioning. Sediment, physical barriers, substrate, large wood, and pool frequency are rated as not properly functioning. The physical barrier and refugia indicators were not rated, because these streams are upstream from Izee Falls which is itself a barrier. The riparian reserve indicator was not rated for the same reason as stated above.

North Fork John Day River subbasin

The NFJD River subbasin encompasses 1.18 million acres. The Prineville District of the BLM manages approximately 35,350 acres from the mouth of the NFJD River to RM 51.4. Major tributaries within the subbasin include Granite, Desolation, Camas, Potamus, Big Wall, Cottonwood, and Rudio Creeks and the MFJD River. For purposes of this consultation, the NFJD River subbasin was divided into the mainstem NFJD River, NFJD River tributaries (refer to page B27 of the BA for a complete list), and the MFJD River and tributaries (refer to page B30 of the BA for a complete list).

In the mainstem NFJD River, three habitat indicators (nutrients, physical barriers, and disturbance history) are rated as properly functioning. Seven indicators (sediment, substrate, pool quality, streambank condition, floodplain connectivity, drainage network increase, and road density) are rated at risk. Temperature, large wood, pool frequency, off-channel habitat, refugia, width/depth ratio, and peak/base flow are rated as not properly functioning. The riparian reserve indicator was not rated for the same reason as stated above.

In the NFJD River tributaries, three habitat indicators (nutrients, physical barriers, and disturbance history) are rated as properly functioning. Eight indicators (sediment, substrate, pool quality, off-channel habitat, streambank condition, floodplain connectivity, peak/base flow, and drainage network increase) are rated at risk. Three indicators (temperature, large wood, and road density) are rated at risk/not properly functioning, and three (pool frequency, refugia, and width/depth ratio) are not properly functioning. The riparian reserve indicator was not rated for the same reason as stated above.

In the MFJD River and tributaries, three habitat indicators (physical barriers, peak/base flow, and disturbance history) are rated as properly functioning. Seven indicators (sediment, nutrients, substrate, pool quality, streambank condition, floodplain connectivity, and drainage network increase) are rated at risk. Large wood and road density are rated as at risk/not properly functioning. Five indicators (temperature, pool frequency, off-channel habitat, refugia, and width/depth ratio) are rated as not properly functioning. The riparian reserve indicator was not rated for the same reason as stated above.

Lower John Day River subbasin

The LJD River subbasin encompasses 2.01 million acres. The Prineville District of the BLM manages approximately 242,600 acres from the mouth to the NFJD River confluence at RM 185. Major tributaries on BLM land within the subbasin include Bridge, Thirtymile, and Rock Creek . For purposes of this consultation, the LJD River subbasin was divided into the mainstem LJD River, LJD River perennial tributaries, LJD River intermittent tributaries, and LJD River ephemeral tributaries.

The LJD River mainstem serves as a migration corridor for MCR steelhead. For this reason several indicators such as substrate, large wood, off channel habitat, and refugia were not rated. Six indicators (nutrients, physical barriers, pool frequency, pool quality, width/depth ratio, and drainage network

increase) are rated as properly functioning. Five indicators (sediment, streambank condition, floodplain connectivity, peak/base flows, and road density) are rated as functioning at risk.

In the LJD River perennial tributaries (refer to page B36 of the BA for a complete list), three habitat indicators (nutrients, drainage network increase, and disturbance history) are rated as properly functioning. Nine indicators (physical barriers, substrate, pool quality, off-channel habitat, refugia, width/depth ratio, floodplain connectivity, peak/base flow, and road density) are rated at risk. Five indicators (temperature, sediment, large wood, pool frequency, and streambank condition) are rated as not properly functioning.

In the LJD River intermittent tributaries (refer to page B38 of the BA for a complete list), seven habitat indicators (sediment, nutrients, substrate, pool quality, streambank condition, drainage network increase, and disturbance history) are rated as properly functioning. Four indicators (physical barriers, floodplain connectivity, peak/base flow, and road density) are rated at risk. Three indicators (temperature, pool frequency, and refugia) are rated as not properly functioning.

In the LJD River ephemeral tributaries, most of the habitat indicators in the MPI are not really applicable, because water is only present in these canyons, hollows, and gulches during high spring run-off or after extreme thunderstorms. However, four indicators (sediment, nutrients, drainage network increase, and road density) are rated as properly functioning.

V. ANALYSIS OF EFFECTS

A. Effects of Proposed Actions

The effects determination in the BA evaluated current aquatic conditions (the environmental baseline) and predicted the effects of the action on them. The process described in NMFS (1996) was used to provide adequate information in a tabular form in the BA for NMFS to determine the effects of actions subject to consultation. The expected effects of the actions are expressed in terms of how they restore, maintain, or degrade each of 18 aquatic habitat factors in the action area, as described in the "checklist for documenting environmental baseline and effects of the action" (checklist) completed for each action and watershed. The results of the completed checklist for the action provide a starting point for determining the overall effect of the action on the environmental baseline in the action area.

Road Maintenance

Because of the proximity of the maintained roads to the mainstem SFJD River and Deer, Indian, Squaw, Holmes, and Franks creeks, road maintenance activities (e.g., blading the road surface, cleaning ditches and culverts, installing drain dips) could result in small amounts of sediment entering these streams. Maintenance of the roads could also result in limited sediment input at the mouths of

tributary streams which the roads cross; and prevent establishment of riparian vegetation in some areas where roads are in close proximity to streams.

Beneficial effects occur where road maintenance reduces the potential for catastrophic erosion and delivery of large amounts of sediment to stream channels. Severe erosion is almost inevitable if roads are not regularly maintained, and thus regular maintenance is a high priority. Failure to properly maintain road drainage can result in sediment inputs to streams which are considerably larger than those resulting from the road maintenance work.

Removal and replacement of the culvert at the mouth of Smokey Creek which enters the SFJD River at approximately River Mile (RM) 6.3 could result in a short-term sediment pulse in Smokey Creek and the SFJD River for a short distance downstream. Replacement of the culvert would restore access for MCR steelhead to 3.0 miles of spawning and rearing habitat in Smokey Creek. The existing culvert is undersized; the replacement would accommodate a 100-year peak flow event.

Irrigation Withdrawals

Water withdrawal and conveyance can kill and injure listed MCR steelhead and adversely modify their proposed critical habitat. Juvenile MCR steelhead can be killed by getting sucked into unscreened water intakes or stranded in water diversion canals. These canals can attract juvenile MCR steelhead by providing spring and early summer rearing habitat. When summer low stream flows occur and high water use begins, many of these water canals dry up. This results in juvenile fish being trapped in pools where they may eventually die. Diversions may also cause blockages to adult MCR steelhead returning to spawn by dewatering natal spawning streams. Migration of adult MCR steelhead in their natal streams can be physically blocked by in-stream water diversion berms and low water levels caused by excessive water withdrawal.

In the case of the Bridge Creek water withdrawals, the potential concerns are entrainment of juvenile fish on the pump intake screens and reduction of stream flow in Bridge Creek . Because of the BLM requirement that irrigation withdrawal be terminated if and when the discharge of Bridge Creek recedes to 10 cfs, dewatering of the stream and blockage of juvenile or adult migration will not occur as a result of the associated water withdrawal. Maintaining at least 10 cfs flow in Bridge Creek should also provide adequate rearing habitat for juvenile MCR steelhead.

Natural Gas Pipeline Maintenance

Since maintenance generally occurs when this section of Pine Hollow Creek is nearly dry, potential effects are confined to each individual site where maintenance is required. Potential effects of the maintenance work on MCR steelhead are: (1) Direct mortality of juvenile MCR steelhead from being crushed or run over by maintenance equipment, (2) dewatering of one of the scattered pools along the creek channel resulting in stranding and death of any juvenile MCR steelhead which may remain in the

pool when maintenance work is performed, (3) disturbance and destabilization of streambanks and stream substrate, and (4) disturbance or removal of riparian vegetation at each maintenance site.

B. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area for this consultation, therefore, includes the mainstem John Day River, NFJD River, SFJD River, and all of their tributaries within or adjacent to BLM lands. The BLM identified no specific private or state actions that are reasonably certain to occur in the future that would affect MCR steelhead or their habitat within the action area. The BLM manages 332,300 acres (about 7 percent) of the 5.1 million-acre John Day River basin. The United States Forest Service manages 1.53 million acres (30 percent). Approximately 3.2 million acres (over 62 percent) within the basin are privately owned.

Significant improvement in MCR steelhead reproductive success outside of BLM land is unlikely without changes in grazing, agricultural, and other practices occurring within these non-Federal riparian areas in the John Day River basin. Given that the MCR steelhead is listed as threatened and critical habitat has been proposed, NMFS assumes that non-Federal land owners will take steps to curtail or avoid land management practices that would result in the take of MCR steelhead. However, NMFS is not aware of any specific future actions which are reasonably certain to occur on non-Federal lands. Until improvements in non-Federal land management practices are actually implemented, NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

VI. CONCLUSIONS

The NMFS has determined that, when the effects of the subject actions addressed in this Opinion are added to the environmental baseline and cumulative effects occurring in the action area, they are not likely to jeopardize the continued existence of MCR steelhead . Additionally, the NMFS concludes that the subject actions would not cause adverse modification or destruction of proposed critical habitat for MCR steelhead. In reaching these conclusions, NMFS has utilized the best scientific and commercial data available as documented herein and by the BA describing the Federal actions.

VII. CONSERVATION RECOMMENDATION

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of

critical habitat, or to develop additional information. The NMFS believes that the following conservation recommendation regarding livestock grazing should be implemented:

> Since 1999 grazing actions have now been completed on all allotments within the BLM's Central Oregon Resource Area and are, therefore, not covered by this Opinion, the BLM should complete interagency Section 7 consultation with NMFS to develop grazing strategies which minimize or avoid the potential for livestock to adversely affect (e.g., stepping on MCR steelhead redds, over-utilization of riparian vegetation, decreased streambank stability) MCR steelhead or their proposed critical habitat well in advance of livestock turnout in the spring of 2000. Consultation for these grazing actions should be initiated by autumn of 1999 to allow for completion before expected livestock turnout in 2000.

IX. REINITIATION OF CONSULTATION

Reinitiation of consultation is required if: (1) If the action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR. 402.16). The BLM must also reinitiate consultation if the actions covered by this Opinion are not in compliance with requirements of NMFS' broad-scale biological opinion being developed in consultation with the BLM for Resource Management Plans as amended by PACFISH within the MCR steelhead ESU.

X. REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion in addition to the BA and additional information requested by NMFS and provided by the Prineville BLM District.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I. V. Lagomarsino. 1996. Status Review of West Coast Steelhead from Washington, Idaho, Oregon, and California. NOAA Technical Memorandum NMFS-NWFSC-27. August. 261 p.

Chilcote, M.W. 1997. Conservation status of steelhead in Oregon. Draft report, dated September 9, 1997, Oregon Department of Fish and Wildlife, Portland, Oregon. 109 p.

National Marine Fisheries Service (NMFS). 1998. Section 7 Consultation on the Effects of Continued Implementation of Land and Resource Management Plans on Endangered Species Act Listed Salmon and Steelhead in the Upper Columbia and Snake River Basins. NMFS, Northwest Region, Seattle, Washington. Biological Opinion. June. 121 p.

National Marine Fisheries Service (NMFS). 1997a. Biological Opinion and Conference Opinion on Implementation of Land and Resource Management Plans (USFS) and Resource Management Plans (BLM) on the Oregon Coast. NMFS. Northwest Region, Seattle, Washington. Biological Opinion. March. 75 p.

National Marine Fisheries Service (NMFS). 1997b. Status Review Update for Deferred and Candidate ESUs of West Coast Steelhead. December. 62 p.

National Marine Fisheries Service (NMFS). 1996. Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale. NMFS, Environmental and Technical Services Division, Habitat Conservation Branch, 525 NE Oregon Street, Portland, Oregon. 28 p.

XI. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. If necessary, it also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

A. Amount or Extent of Take

The NMFS anticipates that the subject actions covered by this biological opinion have more than a negligible likelihood of resulting in incidental take of MCR steelhead. Some minimal amount of take

may result from the transport of sediment to the SFJD River and Deer, Indian, Squaw, Holmes, and Franks creeks resulting from road maintenance. In addition, some incidental take may result from water withdrawal from Bridge Creek and from maintenance of the natural gas pipeline along lower Pine Hollow. Because of the inherent biological characteristics of aquatic species such as MCR steelhead, however, the likelihood of discovering take attributable to these actions is very small. Effects of actions such as those addressed in this Opinion are largely unquantifiable in the short term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, even though NMFS expects some incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take of listed fish at any life stage.

Based on the information in the BA and additional information provided by the BLM, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this biological opinion. To ensure protection for a species assigned an unquantifiable level of take, reinitiation of consultation is required if: (1) Any action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this biological opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; (3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR. 402.16); or (4) the actions discussed in this Opinion are not in compliance with requirements of NMFS' broad-scale biological opinion being developed. This incidental take statement shall be in effect for the duration of the actions covered by this Opinion.

B. Effect of the Take

In this Opinion, NMFS has determined that the level of anticipated take is not likely to result in jeopardy to MCR steelhead to destroy or adversely modify proposed critical habitat for MCR steelhead when the reasonable and prudent measures are implemented.

C. Reasonable and Prudent Measures

The NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize the likelihood of take of MCR steelhead resulting from the actions covered by the biological opinion.

1. The BLM shall utilize Best Management Practices which avoid or minimize sediment entering streams as a result of road maintenance.

2. The BLM shall minimize effects of water withdrawals from the mainstem John Day River and Bridge Creek on MCR steelhead and their proposed critical habitat.

3. The BLM shall minimize effects of natural gas pipeline maintenance in Pine Hollow on MCR steelhead and their proposed critical habitat.

D. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the BLM must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary. The BLM shall do the following:

1. To avoid or minimize the potential for sediment resulting from road maintenance entering streams, the BLM shall:

(a) Dispose of waste material generated from road maintenance activities in stable sites only;

(b) maximize maintenance activities during the dry season to avoid soil disturbance in wet periods;

(c) where sediment risks warrant, use filter strips (straw bales or similar materials);

(d) leave vegetation in ditches, when possible, and replant ditch banks with native grasses when disturbed;

(e) not dispose of waste material generated from road maintenance activities on active floodplains; and,

(f) clean ditches of materials resulting from slides.

2. To minimize effects of water withdrawals from the mainstem John Day River and Bridge Creek on MCR steelhead and their proposed critical habitat, the BLM shall:

(a) Measure or obtain from USGS gauging station on Bridge Creek the stream discharge of Bridge Creek at least weekly during the irrigation season to ensure that flow does not recede below the minimum BLM requirement of 10 cfs;

(b) monitor and maintain pump station intake screens frequently to ensure that they are functioning properly.

3. To minimize effects of natural gas pipeline maintenance in Pine Hollow on MCR steelhead and their proposed critical habitat, the BLM shall:

(a) Require the pipeline maintenance contractor to avoid, to the maximum extent practicable, using equipment in, altering, draining, or causing sediment to enter any intermittent pools which may be present in Pine Hollow during pipeline maintenance; and,

(b) if it is necessary to use equipment in, alter, drain, or cause sediment to enter any of these pools, a BLM fishery biologist shall supervise removal of all juvenile MCR steelhead from the pool by netting or seining prior to performance of the pipeline maintenance work. Fish removed from the pool shall be promptly released in an undisturbed pool or in flowing water further downstream.